



## **Environmental Technology Verification Program Wet Weather Flow Technologies Pilot**



The Environmental Technology Verification Program (ETV) was established by the U.S. Environmental Protection Agency (EPA) to accelerate the development and commercialization of improved environmental technologies through third party verification and reporting of performance. ETV provides purchasers, permittees, and developers with objective, quality assured performance data on new technologies. The program now operates 12 pilots covering a broad range of environmental areas. For each ETV pilot, EPA selects a partner organization(s) to oversee and conduct verification activities based on testing and quality assurance protocols developed with input from all major stakeholder/customer groups associated with the technology area. ETV has verified 25 technologies to date and over 50 additional technologies are presently in the verification process. It is expected that ETV will verify approximately 300 better, faster, cheaper technologies within the first decade of the ETV program.

### **ETV Program Goal**

To verify the environmental performance characteristics of commercial-ready technologies through the evaluation of objective and quality assured data so that potential purchasers and permittees are provided with an independent and credible assessment of the technology they are buying or permitting.

### **ETV Customers**

- ◇ Technology Users and Purchasers
- ◇ Technology Enablers
  - Permittees, Regulators
  - Consulting Engineers
  - Financial and Export Communities
- ◇ Technology Developers and Vendors

## **Wet Weather Flow Technologies (WWF)**

### **Searching for Solutions**

Wet Weather Flows (WWFs), which include combined-sewer overflow (CSO), sanitary-sewer overflow (SSO), and stormwater, are the leading causes of impaired water-quality in the United States today. Among the problem constituents are oxygen-demanding substances; infectious microorganisms; and toxic heavy metals, pesticides, and petroleum hydrocarbons. Nationwide, approximately 1,100 municipalities have combined sewers serving more than 43 million people and there are more than 15,000 CSO points within these systems. SSOs occur in more than a thousand municipalities and stormwater discharges occur in as many as 1.2 million industrial, commercial, institutional, and retail sources. The WWF related regulations, rules, and guidelines, which are either in place (for CSO and stormwater) or forthcoming, will significantly increase the volumes of flows to be treated, since a great majority of these flows will not be allowed to be discharged without treatment. To comply

with the regulations and to process larger flowrates and volumes, hundreds of municipalities and businesses need to consider a variety of approaches, such as retrofitting their current wastewater treatment plants, installing parallel processes, and treating flows at overflow points. All of these approaches will require the use of advanced control and treatment processes at a national cost of compliance in excess of \$100 billion, and the cost must be born by respective communities that often operate on limited and short-term budgets. There are a large number of commercial WWF control/treatment systems with different designs, removal efficiencies, applicability, and cost-saving features. Verification testing of these systems will benefit communities that must select treatment systems that are both appropriate and cost effective. Participating control system manufacturers will also benefit from having quality-assured performance data to support the sale of their products.

## Wet Weather Flow Technologies Pilot

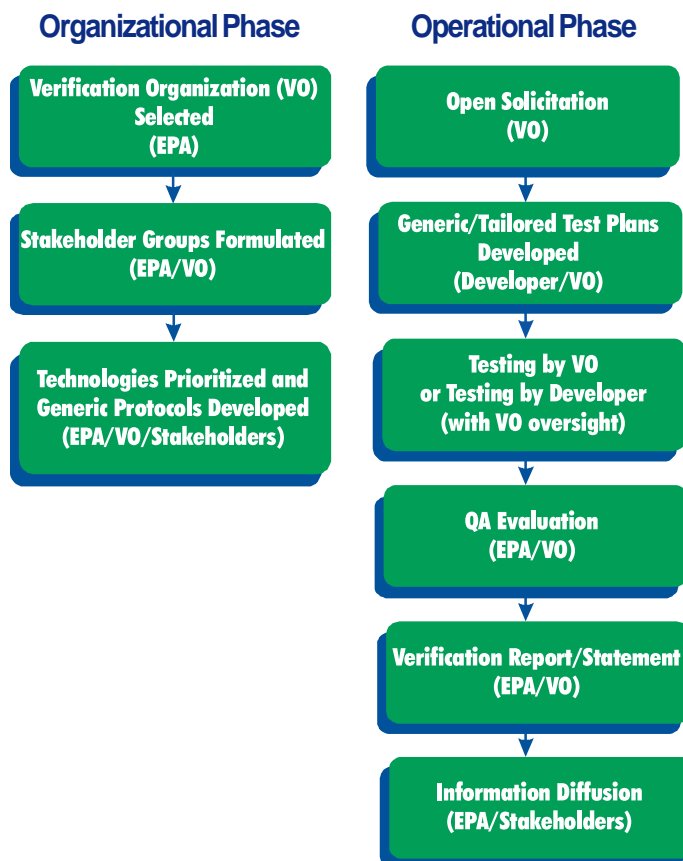
The U.S. EPA is developing a program to conduct credible and objective verification testing of fully-developed and commercially available urban WWF pollution abatement systems. It is anticipated that two types of WWF systems will be verified in this pilot: (1) WWF storm-inlet devices that are designed to control/treat stormwater as it enters the sewer system, and (2) advanced high-rate WWF treatment technologies that belong to four general groups: sedimentation, micro- and fine-mesh screening, biological, and disinfection processes.

### How the Pilot Works



In July 1998, EPA selected NSF International (NSF) as the verification partner organization to carry out the WWF pilot program. Under the guidance of a Stakeholder Group, NSF and EPA will develop equipment testing plans, protocols, and quality assurance procedures. The Stakeholder Group will be formed from verification customer groups: buyers and users of the technology, vendors, the consulting engineering community that recommends technology alternatives to purchasers, and state permittees and regulators. They will assist in prioritizing the types of technologies and systems to be verified, and in defining and conducting outreach activities appropriate to the WWF area. A process for implementing verification testing under the pilot program will be developed through stakeholder meetings. The initial concept, as in other pilots, is for vendors to submit products for verification under one or more specified conditions established in the test protocols. The participating vendor will be required to loan their WWF control device (size permitting) for verification testing and provide technical support during the evaluation period. Larger full-scale control devices may need to be evaluated "in-place" at the vendor's installed location. Testing periods may be as long as 9 to 12 months in duration as an adequate number of wet weather flow events is necessary to fully evaluate the control devices. Equipment maintenance requirements and associated costs also will be documented. Completed verification results will be evaluated by EPA, NSF, and the Stakeholder Group. An ETV verification statement and report will be issued to the participating vendor and results will be distributed through both published reports and electronic media.

## ETV Pilot Process



## Program Contacts

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